Extension Service Circular 145 January, 1931

Effectiveness of Home Garden

A Study of 271 Farm Homes in Union, Sumter, and Orangeburg Counties, South Carolina, 1930

M. C. Wilson and Lonny I. Landrum

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COOPERATIVE EXTENSION WORK IN AGRICULTURE AND HOME ECONOMICS

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Contents

Acknowledgment

The authors are indebted to Iva M. Sinn and J. M. Stedman of the United States Department of Agriculture; and to Blanche G. Tarrant, Sarah E. Harper, and Mrs. T. D. Plowden of Winthrop College; and to home demonstration agents Mary S. Henderson, Mahala J. Smith, and Annie Ervin for their assistance in collecting the field data.

DISTRIBUTION. - A copy of this circular has been sent to each extension director, State and assistant State county agent leader, State and assistant State home demonstration leader, State and assistant State club leader, negro supervisor, horticultural specialist, State agricultural college library, and State experiment station library.

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Purpose of Study

The study reported in this circular was undertaken for the purpose of obtaining some scientific information on the home-garden situation with reference to representative farm homes throughout the State of South Carolina. In addition to data on the kinds of garden crops grown during all seasons of the year, information was obtained regarding sales, purchases, preserving, and storing of fruits and vegetables.

The study also relates to cooperative extension work in home gardening -- the means and agencies employed in extension teaching, and their effectiveness in influencing people to adopt the better garden practices taught.

The influence of such factors as condition of land tenure, educational training, and age upon the acceptance of extension practices is also brought out.

Method of Collecting Data

A representative area comprising about 100 contiguous farm homes was selected in each of three counties: Union in the western part of the State, Sumter in the central, and Orangeburg in the southern part of the State. Experienced extension workers visited every farm home in the areas and obtained comparable data regarding home gardens and the use of home-garden extension information. (Figs. 1a and 1b.) The questionnaire cards were checked each day at the headquarters of the survey party for errors and inconsistencies, and additional information was obtained where necessary.

A total of 271 records was obtained -- 111 in Union, 99 in Sumter, and 61 in Orangeburg County. These represent more than 95 per cent of all the white farm homes in the areas included in the study.

Conduct of Garden Extension in South Carolina

Home demonstration work was begun in South Carolina in the early spring of 1910 in Aiken County. That summer one of the home-economics workers from Winthrop College gave the club girls in the county instructions in canning the tomatoes they had raised. In 1911 the work was made state-wide with Winthrop College the headquarters. With the passage of the Smith-Lever law in 1914 an agreement was entered into between Clemson and Winthrop Colleges whereby extension work with women and girls would continue to be centered at the South Carolina College for Women. A garden specialist has been employed at that institution since 1914.

The first clubs were tomato clubs, which later became gardening and poultry clubs and still later home demonstration clubs. Gardening has always had an important place in extension programs for women and girls.

The first garden extension work by Clemson College started about 1913 and was given major emphasis during the war period, a war-garden specialist having been employed at that time. The regular extension specialists in horticulture have always devoted a part of their time to home gardens since first employed in 1913. The present horticultural specialist,

who began work in 1921, has materially increased the proportion of home-garden extension in the horticultural program.

In the counties included in the study the home-garden project has received major emphasis in the extension program since organized extension work began in these counties. All three counties have had agricultural agents since 1908. Sumter and Union Counties have each had a county home demonstration agent since 1913. In Orangeburg County a home demonstration agent was first employed in 1916. (Table 1.)

Though this study has been approached largely from the home demonstration point of view, a record was made of garden contacts of farm families with the county agricultural agents and the horticultural specialist of the agricultural college, as well as with the various home demonstration workers.

No.____County_____ HOME GARDEN SURVEY Date_____

Name_____Address_____Community_____
Years on this farm___Owner___Renter___Cropper___Size of farm___Kind of road_____
Type of farming_____Distance to Ext. Office___Phone___Radio___Stations from
which useful Agric. and H. Econ. information is obtained_____Auto_____
Woman drives car___Size of family_____Member of H.D.club: Pres._____Past_____
Have a garden___Size (acres)___If not, why_____
Garden crops grown: Spring: Leafy___Root____Pod___Fruity Veg.___Fruits_____
Summer: Leafy___Root____Pod___Corn____Fruity Veg.___Fruits_____
Fall: Leafy___Root____Pod___Corn____Fruity Veg.___Fruits_____
Winter: Leafy___Root_____
Do you serve two vegetables besides potatoes daily: Usually__Part of time__Seldom_____
Do you serve two fruits including tomatoes daily: Usually__Part of time__Seldom_____
Do you buy fruit during: Spring___Summer____Fall____Winter___Do you buy vegetables during:
Spring___Summer___Fall___Winter___Quarts canned for home use: Vegetables_____
Fruits___; Bushels stored for winter use: Vegetables___Fruits__Surplus grown for market:
Spring___Summer__Fall__Winter___; Garden surplus sold: Fresh__Canned__Plants sold_____
How is surplus marketed: Club market__Peddled__Hucksters__To stores___Total value of
garden surplus sold last year $_____Are records of sales kept?_____
Member of garden contest: Yard and garden, pres.___past___; Home garden, pres.___past_____
Best garden, pres.___past___; Nitrate garden, pres.___past___; Other, pres.___past_____
Boy or girl in garden club, pres.___past___; Ever made contact with extension worker in relation
to home gardening: H.D.A.___Co.Agt.___Winthrop Spec.___Clemson Spec._____
Age_____Educational training_____Attitude toward extension_____

Extension services of the U. S. Department of Agriculture, Clemson, and Winthrop Colleges cooperating.

Figure 1a.-Obverse side of questionnaire card used in collecting data.

Check extension activities relating to home gardening attended or personal contacts with extension workers regarding home gardening: Result demonstrations: Adult (dem.a.)_____
Junior (dem.jr.)___ Method demonstration meeting (m.dem.)___ General meeting (Mtg.)_____
Bulletin (bul.)___ Circular letter (cir. l.)___ News story (n.s.)___ Exhibit (exh.)_____
Farm or home visit (f.v.)___ Office call (o.c.)___ Telephone call (tel.)___ Correspondende (cor.)
____ Radio talk (r.)____ Indirect (ind.)_____

Home garden practices adopted due to extension influences

Practice	Method responsible	H.D.A.	Co.Agt.	Specialist Win.	Specialist Clem
Better varieties					
Introduction of new vegetables					
Rotation of crops					
Successive plantings					
Use of fertilizer					
Method of cultivation					
Hotbed					
Coldframe					
Seed selection					
Disease and insect control					
Pruning					
Grading					
Standard containers					
Family nutrition					
Source of income					
Canning					
Storing					

Figure 1b. - Reverse side of questionnaire card used in collecting data.

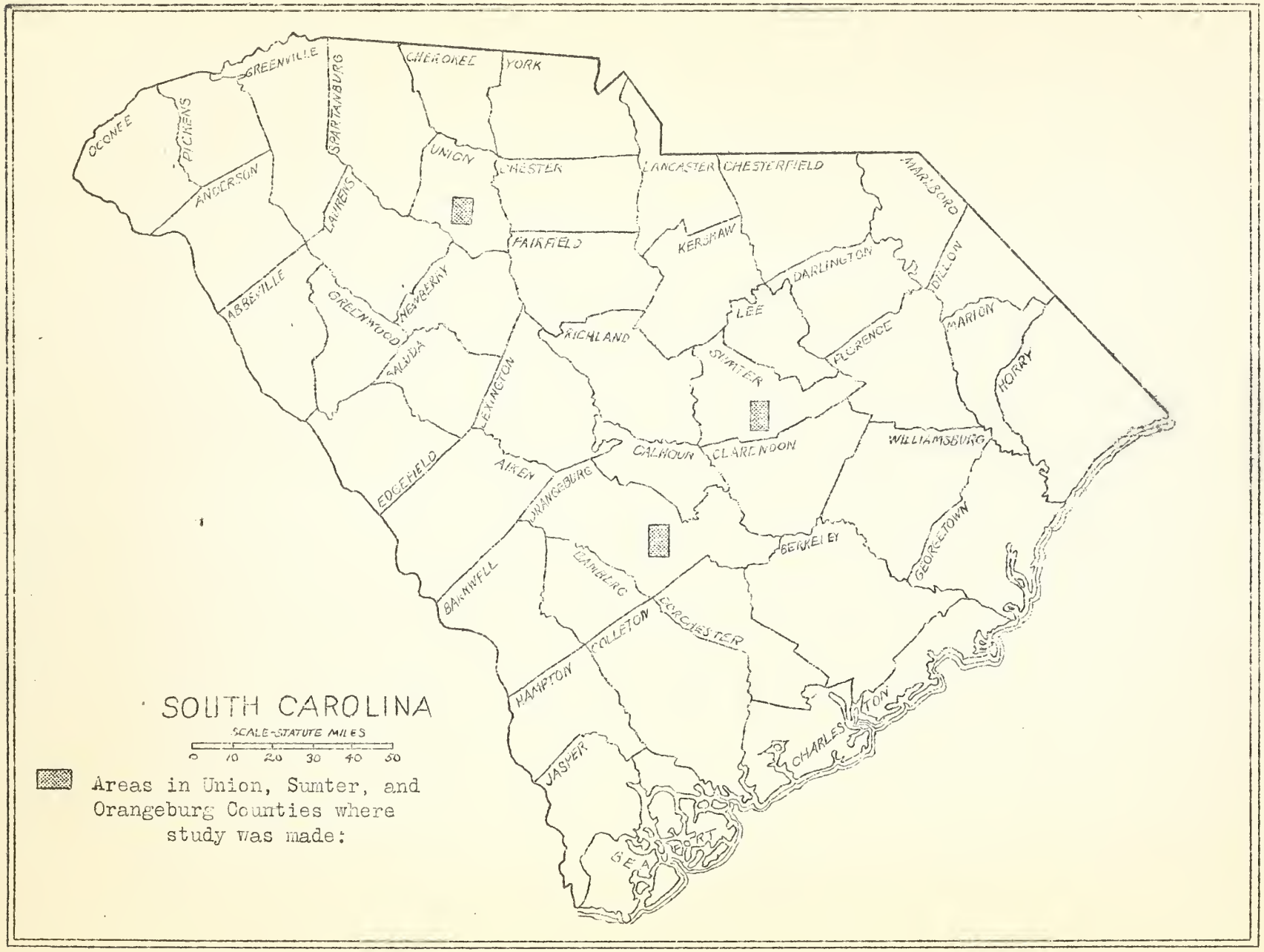

Figure 2. - Map of South Carolina showing location of areas included in study

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Table 1. - Home demonstration agents employed in counties included in study.

Name of agent	Dates employed
Orangeburg County	
Miss G. M. Patrick	Feb. 16, 1916 - Nov. 15, 1917
Miss A. R. Bowman	Nov. 16, 1917 - May 31, 1919
Mrs. E. D. Carter	March 16, 1919 - June 30, 1919
Miss P. V. Bryant	July 1, 1919 - Nov. 30, 1919
Miss T. Fickling	Sept. 1, 1919 - April 30, 1920
Miss C. L. Coleman	May 16, 1920 - April 1, 1923
Miss Sarah E. Morris	June 1, 1923 - Dec. 31, 1929
Miss Leona Hewitt (assistant)	Jan. 1, 1929 - June 30, 1939
Miss Mary S. Henderson	Jan. 1, 1930 -
Union County	
Miss A. O. Smith	March 1, 1913 - Dec. 31, 1918
Miss M. H. Oetzel (assistant)	March 1, 1918 - Dec. 31, 1918
Miss A. Robertson (assistant)	Feb. 1, 1919 - June 30, 1919
Miss M. J. Smith	Feb. 1, 1919
Sumter County	
Miss M. A. Lemmon	Feb. 1, 1913 - Feb. 1, 1918
Miss A. J. Martin (assistant)	Feb. 18, 1918 - Dec. 31, 1919
Miss A. O. Keels	Feb. 1, 1918 - Feb. 1, 1919
Miss C. A . Truluck	Feb. 1, 1920 - Dec. 31, 1923
Miss Cora Westbrook	Jan. 16, 1924 - Dec. 31, 1925
Miss Annie Ervin	Jan. 1, 1926 -

General Information Relating To Farm Homes Studied

Of the 271 farm homes for which records were obtained 71 per cent were operating their farms as owners, 19 per cent as tenants, and 10 per cent as croppers. (Table 2.) The families had lived on the present farms for an average of 16 years. The average size of farm was 145 acres.

Seventeen per cent of the farm homes were located on roads paved with concrete or macadam, 44 per cent were on roads which were graded but not paved, and the remaining 39 per cent were situated on ungraded roads.

The average distance from the farm home to the extension office at the county seat was 7 miles. Nearly one home in three had a telephone, and about one in five had a radio.

Automobiles were reported by 72 per cent of the farm families interviewed, and in the case of 29 per cent of the families the farm woman drove the automobile.

The average size of the families was five persons.

Nearly 48 per cent of the farm women had at one time or another been members of home demonstration clubs.

Table 2. - General information relating to farm homes included in study

Item	Number	Per cent
Records obtained	271	100
Average number of years on present farm	16	.....
Farms operated by owners	192	70.85
Farms operated by renters	52	19.19
Farms operated by croppers	27	9.96
Average size of farm (acres)	145	.....
Farmstead situated on -		
Paved road	45	16.60
Graded road	120	44.28
Ungraded road	106	39.11
Average distance from county extension office(miles)	7	.....
Homes equipped with telephones	84	31.00
Homes equipped with radios	53	19.56
Families where woman drives automobile	79	29.15
Families with automobiles	196	72.32
Average size of family	5	.....
Member of a home demonstration club (present)	87	32.10
Member of a home demonstration club (past)	42	15.50

Garden Crops Grown

Only 3 of the 271 farm homes studied did not have a garden. The average size of the gardens was 0.7 acre. A wide variety of crops was grown. Table 3 shows the percentage of homes reporting the various types of garden crops grown at the different seasons of the year. Eighty-five per cent of the homes had something growing in the garden during the winter season, though in many gardens collards and turnip "salad" were the only winter crops grown.

There seem to be no statistical data available showing the percentage of homes with gardens at an earlier period in these same or similar areas of the State. It is probable, however, that there has been considerable increase in the number and extent of home gardens during the last 15 years.

Table 3. - Homes at which garden crops were grown during the different seasons

Crop grown	Spring	Summer	Fall	Winter
	Per cent	Per cent	Per cent	Per cent
Leafy	89.55	96.64	91.79	83.58
Root	73.51	98.13	89.18	68.66
Pod	76.86	98.13	79.85	.....
Corn	.....	98.51	70.52	.....
Fruity vegetable	34.33	98.51	73.88	.....
Fruits	48.13	77.24	54.48	.....
Any	97.01	99.63	96.64	85.45

Canning and Storing of Fruits and Vegetables

The canning of surplus fruits and vegetables from the home garden is a common practice in the farm homes included in this study, having been reported for 83 per cent of the homes interviewed. (Table 4.) In all the homes, an average of 130 quarts of fruits and vegetables were canned during the preceding year, largely for home consumption. The storing of vegetables for winter use, particularly sweetpotatoes, is also a common practice in these homes. Little fruit is grown which is suitable to store for winter use.

Table 4. - Fruits and vegetables canned and stored

Item	Percentage or number
Percentage of homes in which vegetables were canned.....	82.66
Average number of quarts of vegetables canned (all homes)....	81.90
Percentage of homes in which fruits were canned.....	83.39
Average number of quarts of fruits canned (all homes).....	47.71
Percentage of homes in which vegetables were stored for winter use.....	77.12
Average number of bushels of vegetables stored (all homes)....	32.16
Percentage of homes in which fruits were stored for winter use.....	6.64
Average number of bushels of fruits stored (all homes).....	.28

Garden Surplus Sold

One hundred seventy one of the 271 farm homes sold some surplus from the gardens during the year. The lowest percentage was during the winter months, and the highest percentage during the summer. (Table 5.) Practically all of the homes selling fruits and vegetables sold them fresh. However, nearly 19 per cent sold some canned fruits and vegetables. Nearly 13 per cent of the families sold garden plants.

Peddling from house to house, and sales to the stores, were the two most important ways of marketing the garden surplus. About one woman in five patronized the club market. Less than 5 per cent of the women sold their surplus to hucksters.

Table 5. - Garden surplus sold

Item	Percentage of homes
Homes at which a garden surplus was grown for market	63.10
Homes at which a garden surplus was grown-	
In spring	33.58
In summer	46.64
In fall	38.06
In winter	27.61
Homes from which the garden surplus was sold-	
Fresh	99.42
Canned	18.71
As plants	12.86
Homes from which the garden surplus was sold-	
To club market	19.88
By peddling	52.05
To hucksters	4.68
To stores	46.20

Fruits and Vegetables Purchased

The purchase of fruit to supplement that grown in the garden was reported from 90 per cent of the homes, and 62 per cent found it necessary or desirable to purchase vegetables. The highest percentages of homes purchasing fruits and vegetables for home consumption occurred during the winter and spring months, whereas the lowest percentages occurred during the summer months, as would naturally be expected. (Table 6.)

Table 6. - Fruits and vegetables bought

Time of year	Percentage of homes buying -	
	Fruit	Vegetables
Spring	46.49	40.59
Summer	18.45	4.06
Fall	29.15	11.07
Winter	87.82	50.55
Any time	89.67	62.36

Use of Fruits and Vegetables in Diet

Data on the eating habits of the families interviewed as regards the use of fruits and vegetables in the diet are presented in Table 7. In 36 per cent of the homes it is the usual practice to serve at least two vegetables besides potatoes daily. In 51 per cent of the homes this practice is followed part of the time. That as many as two vegetables besides potatoes are seldom served each day was reported by 11 per cent of the families.

About 20 per cent of the families use two fruits, including tomatoes, in the daily diet. This practice is followed part of the time by 53 per cent of the families and seldom followed by 25 per cent.

Membership in Home Demonstration Clubs

At the time the field data were collected 32 per cent of the women interviewed were members of a home demonstration club, and an additional 16 per cent had belonged to such a club at some previous time. (Table 8.) The remaining 52 per cent, or slightly more than half of the farm women in the areas studied, had never affiliated with a women's extension club.

Table 7. - Use of fruits and vegetables in diet

Item	Percentage of families		
	Usually	Part of time	Seldom
Homes in which two vegetables besides potatoes are served daily..	35.79	50.92	11.07
Homes in which two fruits, including tomatoes are served daily....	19.56	52.77	25.09

Table 8. - Membership in home demonstration clubs

Item	Number	Percentage of homes
Member of a home demonstration club at time of study.....	87	32.10
Member of a home demonstration club previously.....	42	15.50
Member of a home demonstration club present and past.....	129	47.60
Nonmembers of home demonstration clubs....	142	52.40

Garden Result Demonstrations Conducted

Practically all of the demonstration gardens in the areas studied had been started in connection with various state-wide garden contests. Thirteen of the homes included in the study either were conducting or had previously (table 9) conducted such garden result demonstrations. This number is a little less than 5 per cent of all the homes studied. As several had conducted demonstration gardens for more than one year, the total number of garden result demonstrations conducted by adult women to the date of the study was 17.

Fourteen boys and girls were engaged in garden club work the season the study was made, and 47 others had been in garden club work previously, making a total of 61 boys and girls from 22 per cent of the farm homes who had conducted junior garden demonstrations.

Contact With Extension Workers Regarding Gardening

Nearly two out of every three farm homes visited had at some time or other been in touch with a representative of the extension service regarding gardening problems. As would be expected, most of these had had contact with the county home demonstration agent. About one farm home in four, however, had been in personal touch with the garden specialists of the college. (Table 10.)

Table 9. - Garden result demonstrations conducted

Item	Number	Per cent of homes
Women conducting garden demonstrations at time of study	11	4.06
Women conducting garden demonstrations previously	6	2.21
Total number of garden demonstrations	17	.....
Different women conducting garden demonstrations	13	4.80
Boys and girls in garden clubs at time of study	14	5.17
Boys and girls in garden clubs previously	47	17.34
Total number of boys and girls in garden clubs	61	22.51

Table 10. - Contact with extension workers regarding gardening

Contact	Number	Per cent
Homes having contact regarding gardening with -		
Home demonstration agent	169	62.36
County agent	34	12.55
Winthrop specialist	67	24.72
Clemson specialist	11	4.06
Any agent	171	63.10
Any specialist	71	26.20
Any contact	172	63.47
Agent only	101	37.27
Specialist only	1	.37

Influence of Extension Upon Home Garden Practices

In the case of every home visited a record was made of changes in gardening practices which were in any way attributable to the teaching activities of the cooperative extension service. A total of 1,005 instances of the adoption of better or improved practices in connection with the home garden and closely related activities was reported for 194 homes, or 72 per cent of all the homes included in the study (table 11).

The use of better methods of canning fruits and vegetables due to extension information was reported for 57 per cent of the homes. The control of garden insect pests and diseases was reported by 37 per cent of the farm women. Thirty-five per cent of the women had made use of information regarding the growing of new vegetables and regarding better varieties of fruits and vegetables already grown. The use of fruits and vegetables in meeting family nutrition problems was reported by 33 per cent of the homes, the successive planting of vegetables to insure a continuous supply by 31 per cent, and cultural methods by 21 per cent of the farm women interviewed. Other practices adopted by a substantial percentage of farm women were rotation of garden crops, use of commercial fertilizers, pruning, and the use of hotbeds.

Though nearly 3 out of 4 farm women had received some assistance from the extension service regarding the growth and utilization of fruits and vegetables there remains a large task to be done in influencing the remaining 25 per cent of farm homes, and in getting those homes already influenced to accept other worth-while garden practices.

Table 11. - Influence of extension upon home-garden practices

Item	Number of homes	Percentage of all homes
Records obtained	271	100
Homes adopting any garden practice because of extension influence	194	71.59
Homes adopting improved practices in -		
Better varieties	96	35.42
Introduction of new vegetables	96	35.42
Rotation of crops	46	16.97
Successive planting	84	31.00
Use of fertilizer	38	14.02
Method of cultivation	57	21.03
Hotbed	45	16.60
Coldframe	12	4.43
Seed selection	23	8.49
Disease and insect control	100	36.90
Pruning	54	19.93
Grading	26	9.59
Standard containers	33	12.18
Family nutrition	89	32.84
Source of income	35	12.92
Canning	154	56.83
Storing	8	2.95
Cooking vegetables	9	3.32

Methods Influencing Adoption of Practices

The subject-matter bulletins of the colleges and experiment stations and the United States Department of Agriculture were apparently the greatest single influence in bringing about the adoption of better garden practices, having been reported in connection with 21.60 per cent of the 1,005 instances of adoption of practices (table 12).

The next most influential means and agencies were the general meeting, which was credited with the adoption of 19.68 practices in each 100, and the method demonstration meetings, credited with an additional 17.56 per cent of practices. All meetings were credited with the adoption of more than 37 per cent of the practices.

The extension news story influenced the adoption of 11.54 practices out of every 100; indirect influence, 7.11; the farm visit, 6;80; the circular letter, 5; and the exhibit, 4.10. Result demonstrations, adult and junior combined, directly influenced 3.65 per cent of the practices adopted.

Comparative Effectiveness of Home Gardening Extension Methods

As a part of the data collected, information was obtained regarding the means and agencies used in garden extension to which each farm woman had been exposed. The percentage of people exposed to the various means and agencies is an indication of the emphasis placed upon them and their adaptability to reach large numbers of people. The garden news story and the garden bulletin had reached over 60 per cent of the homes included in the study (column 1, table 13). Other means and agencies reaching more than 40 per cent of the farm women are the method demonstration meeting, the general meeting, and the exhibit. Circular letters and home visits reached more than 30 per cent of the homes.

Table 12. - Methods influencing the adoption of home-garden practices

Method	Number of practices	Percentage of practices
Total number of practices changed	1,005	100
Bulletins	337	21.60
General meetings	307	19.68
Method demonstrations	274	17.56
News stories	180	11.54
Indirect	111	7.11
Farm visits	106	6.80
Circular letters	78	5.00
Exhibits	64	4.10
Junior result demonstrations	44	2.82
Office calls	29	1.86
Adult result demonstrations	13	.83
Correspondence	6	.39
Telephones	6	.39
Radio	5	.32

Table 13. - Comparative effectiveness of methods used in garden extension

Method	Percentage of homes exposed to methods	Percentage of homes influenced by methods to adopt practices	Percentage exposed which were influenced
Demonstration, adult....	6.27	3.69	58.82
Demonstration, junior...	20.66	9.22	44.64
Method demonstration....	48.34	43.54	90.08
Meetings.....	46.12	36.53	79.20
Bulletins.....	62.36	50.92	81.66
Circular letters.....	33.58	17.71	52.75
News service.....	69.00	34.32	49.73
Exhibits.....	48.34	17.34	35.88
Farm or home visits.....	31.00	20.66	66.67
Office calls.....	15.13	7.75	51.22
Telephones.....	7.38	2.21	30.00
Correspondence.....	6.27	2.21	35.29
Radio.....	5.17	1.84	35.71
Indirect.....	34.32	23.98	69.89
Any method.....	85.61	71.59	83.62

The relation between the percentages of farm women reached and the percentages of women influenced by the various means and agencies forms a basis for ratios that indicate the comparative effectiveness of the means and agencies. The method demonstration meeting, the bulletin, the general meeting, the home visit, and indirect influence seem to have been effective in causing two or more farm women to adopt practices for every three women reached with garden information through these means (column 3, table 13). Result demonstrations, circular letters, news service, and office calls influenced one or more women for every two exposed.

Though these ratios do not take into consideration the number of times the women were exposed to each means and agency, and the total number of practices changed as a result of the exposures, they emphasize the fact that certain means and agencies such as the meeting and the bulletin, which are suitable to reaching large numbers of people, are proportionately as effective in extending garden information as are the farm visit and the result demonstration, which do not reach many people.

Land Tenure as Related to Effectiveness of Garden Extension

Practically all farm homes had gardens regardless of whether the home was that of the owner operator, a renter, or a cropper. Seventy-five per cent of the owner-operator group made use of extension information on gardening as compared to 67 per cent of the renters and 52 per cent of the share croppers. (Table 14). The rate of adoption of practices in gardening was from 50 to 100 per cent greater in the owner families than among the families of the renters and croppers.

Table 14. - Land tenure as related to effectiveness of garden extension

Condition of land occupancy	Percentage of homes	Percentage of homes influenced to change garden practices	Number of garden practices changed per 100 homes
Owners.....	70.85	75.52	416
Renters.....	19.19	67.31	286
Croppers.....	9.96	51.85	211

Size of Farm as Related to Effectiveness of Garden Extension

From table 15 it is evident that the women living on the larger farms made more use of garden information obtained through the extension service than did the women on the very small farms. However, the difference is not great, and becomes less rather than greater as the size of the farms is further increased.

Table 15. - Size of farm as related to effectiveness of garden extension

Size of farm	Percentage of homes	Percentage of homes influenced to change garden practices	Number garden practices chang per 100 homes
50 acres and under.....	32.10	64.37	278
51 - 175 acres.....	42.07	76.32	446
176 acres and over.....	25.83	72.86	364

Distance to the County Extension Office

Whether the farmstead was situated more than 9 miles from the county seat or less than that distance seems to have had little influence upon the acceptance of better gardening practices by farm women. (Table 16.) The families living close to the extension office have apparently made a little more use of extension information than the families living 5 miles or more away. The difference is not sufficiently great to be of much significance, however.

Table 16. - Distance to the county extension office as related to adoption of garden practices

Distance	Percentage of farms	Percentage of Homes influenced to change garden practices	Number of garden practices changed per 100 homes
5 miles and under..	32.10	77.01	445
Over 5 miles and under 9.....	35.42	67.71	317
9 miles and over...	32.47	70.45	357

Relationship of the Automobile to the Effectiveness of Garden Extension

Having an automobile had an important bearing upon the extent to which the farm women changed garden practices. (Table 17.) Whether the farm woman was able to drive the automobile herself or had to depend upon other members of the family to take her to extension gatherings was of no apparent significance in bringing about increased use of extension information in gardening.

Table 17. - Relationship of the automobile to effectiveness of garden extension

Group	Percentage of homes	Percentage of homes influenced to change garden practices	Number of garden practices changed per 100 homes
Woman drives automobile..	29.15	78.48	462
Family has automobile, but woman does not drive...	43.17	78.63	406
Family does not have automobile.....	27.68	53.33	220

Effect of Size of Family Upon Size of Garden and the Use of Garden Information

As might be expected, the larger families had the larger gardens. (Table 18.) Possibly because of this fact, they made somewhat more use of extension information in gardening than did the smaller families.

Table 18. - Effect of size of family upon size of garden and the use of garden information

Number in family	Average size of garden in acres	Percentage of homes influenced to change garden practices	Number of garden practices changed per 100 homes
3 or less.....	.65	67.10	306
4 or 5.....	.71	76.53	410
6 or more.....	.75	70.10	381

Influence of Size of Garden Upon Adoption of Practices

Increased importance of the garden patch, as indicated by the larger areas involved, is directly related to the adoption of the better garden practics taught by the extension service. Where more than 1 acre was included in the garden area, 93 per cent of the farm women made changes in garden practices, as compared to 81 per cent where the areas in garden were more than one-half acre but not so much as 1 acre, and to 65 per cent where the garden was less than half an acre in size. Extension information on gardening had doubtless also been a factor in increasing the size of the home garden.

Table 19. - Size of garden as related to the adoption of practices

Size of garden (acres)	Percentage of Homes	Percentage of Homes influenced to change garden practices	Number of garden practices changed per 100 homes
0 - 0.5 acre.....	66.79	64.64	275
0.6 - 1 acre.....	21.77	81.36	474
Over 1 acre.....	11.44	93.55	732

Membership in Home Demonstration Club as Related to Adoption of Garden Practices

More than 94 per cent of the women enrolled as members of home demonstration clubs reported changes in garden practices. (Table 20.) When the women had previously belonged to such a club but had discontinued their membership, adoption of garden practices was reported in 83 per cent of the cases. In the case of the women interviewed who had never affiliated with an extension home demonstration club, 54 per cent stated that extension information had been used in connection with the garden.

Table 20. - Membership in home demonstration club as related to adoption of garden practices

Group	Percentage of homes	Percentage of homes influenced to change garden practices	Number of garden practices changed per 100 homes
Present member.....	32.10	94.25	649
Former member.....	15.50	83.33	360
Nonmember.....	52.40	54.23	204

Contact with Extension Workers as Affecting Adoption of Garden Practices

That it is highly important for an extension agent to employ teaching methods which will bring her into personal contact over a period of years with a large proportion of the people she is trying to reach is fully emphasized by the data presented in Table 21. Not only were three times as high a percentage of the farm women influenced to change garden practices where contact had been made with extension workers, but more than seven times as many practices were changed per 100 homes in the contact group as in the no-contact group.

Table 21. - Contact with extension workers as affecting adoption of garden practices

Group	Percentage of homes	Percentage of homes influenced to change garden practices	Number of garden practices changed per 100 homes
Homes having had contact with extension workers...	63.47	94.77	540
Homes not having had contact with extension workers...	36.53	31.31	77

Educational Training of Farm Women as Related to Effectiveness of Garden Extension

Additional educational training of farm women was in all cases associated with increased use of extension information. (Table 22.) Where the formal schooling of the farm woman had not extended beyond the eighth grade 65 per cent of the group reported changed practices. Of the women with some high-school but no college training, 80 per cent changed practices. Of those who had attended college, 91 per cent reported having used extension information. The number of improved garden practices adopted per 100 homes was also much greater for the groups with some high-school and college training.

Table 22- Educational training of farm women as related to effectiveness of garden extension

Educational training	Percentage of farm women	Percentage of homes influenced to change garden practices	Number of garden practices changed per 100 homes
Eighth grade or less.....	64.21	65.52	316
Some high school but no college.....	27.68	80.00	443
Some college.....	8.12	90.91	559

Relationship of Age of Farm Women to Effectiveness of Garden Extension

Age of farm women seems to have had little if any influence upon their use of extension information. Fully as high a percentage of the women beyond 45 years of age changed garden practices because of extension teaching as was true of the women less than 45 years of age. (Table 23.) Desire to learn is more important than age in influencing people to accept new or better practices. The data on age are in accord with similar data obtained in other extension studies.[3]

Table 23. - Relationship of age of farm women to effectiveness of garden extension

Age group	Number in group	Percentage of homes influenced to change garden practices	Number of garden practices changed per 100 homes
30 years and under....	45	73.33	349
31 to 35.....	28	67.86	289
36 to 40.....	41	75.61	405
41 to 45.....	32	84.38	494
46 to 50.....	45	77.78	469
51 to 55.....	30	66.67	293
56 to 60.....	20	70.00	320
61 years and over.....	30	50.00	267

[3] Wilson, M. C., and Clapp, A. L. Extension Results as Influenced By Various Factors: Kansas. Extension Service Circular 77. 1928.
Wilson, M. C., and Brokaw, W. H. Extension Results as Influenced By Various Factors: Nebraska. Extension Circular 25. 1929.

Attitude Toward Extension

After the interview with each farm woman a record was made of the attitude of the woman toward extension work as determined by the judgment of the person conducting the interview. By far the highest proportion, 83 per cent, were classed as favorable, while 17 per cent were recorded as indifferent. In many cases those falling in the latter group had had opportunity to attend extension activities and to make use of extension information, but had failed to do so through lack of interest and initiative. Only one person was recorded as being opposed to cooperative extension work.

Summary

The study involves 271 nonselected farm homes in representative South Carolina counties. All but three homes had a garden at the time the data were collected.

Garden surplus was grown for market in the case of 63 per cent of the homes. That fruits, either fresh or canned, were purchased during the year for home consumption was reported by 90 per cent of the families interviewed. Vegetables were purchased by 62 per cent of the families.

That two vegetables besides potatoes were served daily was reported for 36 per cent of the homes. Twenty per cent of the families had two fruits on the table each day.

That the adoption of one or more improved practices regarding the production, marketing, or consumption of garden produce was due to extension information was recorded for 72 per cent of the farm families studied.

The canning of fruits and vegetables, the introduction of new vegetables and better varieties of old vegetables, control of insects and diseases, successive plantings to insure continuous supply, and the use of fruits and vegetables in the diet were among the better practices most frequently adopted.

The bulletin, the general community meeting, the method-demonstratic meeting, and the extension news story were the most important means and agenci reported as having influenced the adoption of better practices. Home visits, circular letters, and indirect influence were other means which influenced mo. than 5 per cent of all practices adopted.

In proportion to the number of people reached, meetings and bulletins were fully as effective in influencing changes in practices as were result demonstrations and home visits.

The size of the farm unit, distance from the county extension office number in the family, and age of farm women had little bearing upon the use of extension information in home gardening.

On the other hand, condition of land tenure, possession of an automobile, membership in a home demonstration club, educational training, and especially contact with extension workers were influential factors affecting the adoption of home-garden practices.

Eighty-three per cent of the farm women interviewed were recorded as favorable to extension work, and 17 per cent as indifferent.